



HEPATIC COCCIDIOSIS IN RABBITS IN KERALA

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ABSTRACT

Eimeria stiedai causing hepatic coccidiosis is a potential threat to the rabbit industry of the state. The relatively less pathogenic intestinal coccidiosis has been very frequently reported in rabbits. The present report on hepatic coccidiosis in rabbits intends to throw light on the occurrence of a pathogenic species in rabbits and discusses the possible clinical signs and treatment measures in case of outbreaks

Key words: *E. stiedai*, rabbits, Kerala

INTRODUCTION

Coccidiosis is a major problem in rabbit industry as mortality rates may go high particularly during and after rainy season (Gill and Ray, 1960). Adults which are usually symptomless carriers of coccidial infection serve as a potential source of severe infection with clinical signs resulting in the death of young ones. Among the thirteen eimerian species infecting rabbits in different parts of the world, *Eimeria stiedai* which parasitizes the epithelial cells of bile duct is extremely pathogenic. As of date, the studies on rabbit coccidiosis in Kerala revealed the presence of only intestinal coccidial species (Pillai and Subramanian, 1993; Shameem and Devada, 2005). This communication places on record the occurrence of hepatic coccidiosis in rabbits of the state.

MATERIALS AND METHODS

The samples were obtained from four adult New Zealand White Rabbits which died due to the disease in a rabbitry at Kalpetta and one sample from a carcass at the time of slaughter. The liver, bile duct and gall bladder were examined for lesions. Impressions smears were collected from liver and bile duct and processed to identify the oocysts.

RESULTS AND DISCUSSION

In all the cases, the liver was found to be greatly enlarged and congested with typical yellowish white nodules of 0.2-0.5 cm diameter distributed throughout the surface (Fig.1). The bile ducts were dilated and gall bladder was distended. Unsporulated oocysts of *E. stiedai* could

be demonstrated in the impression smears from liver lesions as well from the bile. The oocysts have a smooth yellowish orange coloured wall, ovoid in shape measuring 32.7-40.0 X 17-21.7 μm (average of 36.4 x 19.4 μm) with a micropyle (Fig 2).

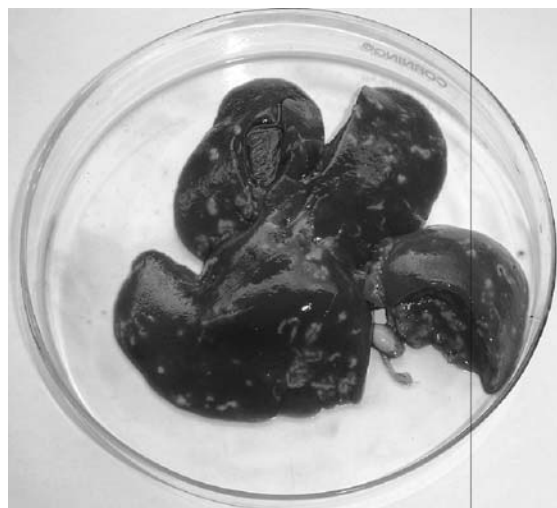


Fig 1. Lesions in the Liver

The lesions and the oocyst morphology in the present study concurred with that of Levine (1985). Routine diagnosis of hepatic coccidiosis in live animals can be done by examination of faecal sample and subjecting it to further sporulation studies for confirming the species. Sporulation time of 72 hours

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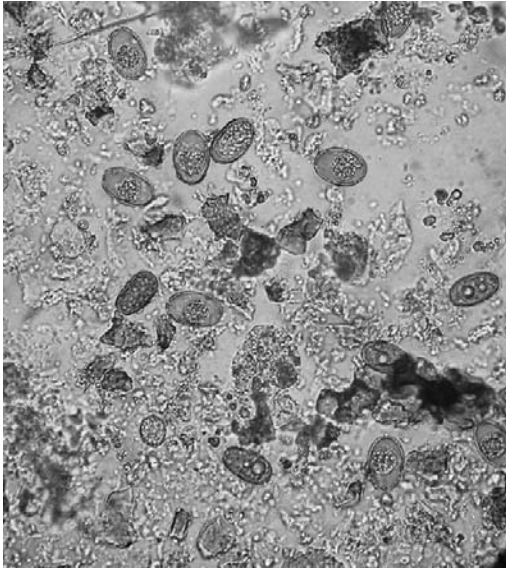


Fig2. Oocysts of *E. stiedai* (10X)

could be observed at room temperature. Rabbits infected with hepatic coccidiosis showed anorexia, depression, brown watery diarrhoea, emaciation, distended abdomen with progressive weakness and death within three to four days. It is worth mentioning that the clinical effects of *E. stiedai* are more severe in young rabbits and there exists an age related resistance in rabbits to hepatic coccidiosis (Bautista *et al.*, 1987). Nevertheless, the adult carriers remain a potential threat to the susceptible young stock. Moreover infection with *E. stiedai* is economically important since it reduces the carcass weight by more than 23 % in rabbits (Barriga and Arnoni, 1981).

Hepatic coccidiosis has been reported from different parts of the country including Kashmir valley (Magray *et al.*, 2010), Himachal Pradesh (Jithendran and Bhat, 1995), Meghalaya (Rajkhowa, 1996) and Karnataka (D'Souza *et al.*, 1992). Singla *et al.*, (2000) reported that toltrazuril @ 25ppm for two days in drinking water was highly effective for treating clinical outbreaks of hepatic coccidiosis in rabbits. Sulphadimidine along with diaverdine also gave encouraging results to control hepatic coccidiosis (Laha *et al.*, 1999). Hygienic maintenance of rabbitry also plays an important role in control of disease as the

dampness of sheds favours the development of infective stages of coccidia which get transmitted by faecal oral route.

Future studies need to be directed toward mapping the prevalence of *E. stiedai* in different age group among different breeds in different seasons. Efficacy of various available anticoccidials as prophylactic and curative for hepatic coccidiosis also need to be ascertained under field conditions.

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